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Attorney Docket No. 249/386

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Chan-soo HWANG, et al.

Art Unit: 2682

Serial No. 10/650,857

Examiner: Doris Ha TO

Filed: August 29, 2003

Confirmation No. 7396

For: APPARATUS AND METHOD FOR  
TRANSMITTING AND RECEIVING SIGNALS  
USING MULTI-ANTENNAS

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §1.56**

Mail Stop: AMENDMENT  
Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 (or PTO-1449, *modified*) is a listing of a document(s) known to applicant in order to comply with applicant's duty of disclosure pursuant to 37 C.F.R. §1.56.

☐ A copy of each listed document is being submitted to comply with the provisions of 37 C.F.R. §§1.97 & 1.98. [Box checked if applicable.]

☒ A copy of each listed non-U.S. patent and/or patent publication and cited literature is being submitted to comply with the provisions of 37 C.F.R. §§1.97 & 1.98. Cited U.S. patents and patent publications are *not* attached in accordance with the waiver set forth in the Notice by the Deputy Commissioner for Patent Examination Policy dated July 11, 2003, applicable to applications having a U.S. filing date *after* June 30, 2003. [Box checked if applicable.]

\* \* \*

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application. Applicant does not waive any rights to take any action that would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* prior art reference against the claims of the present application.

Where available, copies of English language patent family members of non-English patent documents have been provided. Such submission of English language patent family members is for the convenience of the Office and is not to be construed as an indication that such English language patent family members are literal translations of the non-English patents. Applicant(s) expressly reserve their right to file verified English translations of the non-English patent documents.

☒ The listed document(s) is/are being submitted in compliance with 37 C.F.R. 1.97(b)(3): submission before the mailing date of the first action on the merits. [Box checked if applicable.]

☒ The foregoing document(s) came to applicant's attention during the prosecution of their corresponding European application. ☒ A copy of the EP Search Report is also attached.  
[Box(es) checked if applicable.]

#### CERTIFICATION

☒ The undersigned hereby certifies in accordance with 37 CFR §1.97(e)(1) that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to the filing of this Statement. [Box checked if applicable.]

\* \* \*

Applicant respectfully requests that the listed document(s) be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

\* \* \*

#### FEE PAYMENT

- ☐ The fee mandated by 37 C.F.R. §1.17(p) is believed applicable. [Box checked if applicable.]
- ☐ Attached is Form PTO-2038 in payment of this fee (\$180.00). [Box checked if applicable.]
- ☐ This fee may be charged to Deposit Account No. 50-1645. (A duplicate copy of this paper is enclosed.) [Box checked if applicable.]

Respectfully submitted,

December 16, 2005  
Date

  
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PTO/SB/08B (04-03)

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

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of

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**Complete if Known**

Application Number	10/650,857
Filing Date	August 29, 2003
First Named Inventor	Chan-soo HWANG, et al
Art Unit	2682
Examiner Name	Doris Ha TO
Attorney Docket Number	249/386

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	1	KHALIGHI, et al., "Water Filling Capacity of Rayleigh MIMO Channels", 12th IEEE	
		Intl. Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC 2001,	
		Proceedings, Vol. 1, pp. A155-A158, (30 September 2001)	
	2	SAMPATH, et al, "Joint Transmit and Receive Optimization for High Data Rate Wireless	
		Communication Using Multiple Antennas", Signals, Systems, and Computers, 1999,	
		Conference Record of the 33rd ASILOMAR CONFERENCE, IEEE, Piscataway, NJ,	
		USA, IEEE, Vol. 1, pp. 215-219, (24 October 1999)	
	3	ZHOU, Shengli, et al., "Optical Transmitter Eigen-Beamforming and Space Time Block	
		Coding Based on Channel Mean", IEEE Intl. Conference on Acoustics, Speech, & Signal Processing	
		(ICASSP), Orlando, FL, USA, IEEE, Vol. 4, pp. III.2852-III.2856 (13 May 2002)	

Examiner  
Signature

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Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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